



GROUPS AT RISK

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WHO REPORT ON THE TUBERCULOSIS EPIDEMIC 1996



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THE THREAT OF TUBERCULOSIS

objective of these
may be to gather
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base

In 1995, more people died of TB than in any other year in history. At least thirty million people will die from tuberculosis in the next ten years if current trends continue. Millions more will watch helplessly as friends and family members waste away, racked with coughing and sweating with fever. They may wish that medical science could cure this terrible disease. The truth is, medical science can. Since 1952, the world has had effective and powerful drugs that could make nearly every single TB patient well again.



Inconceivably, these medicines are still not being put to proper use. The harm caused by this neglect extends beyond the millions of people who die from TB each year. When governments delay in establishing correct TB treatment programmes, they allow TB to spread and become resistant to existing medicines.

During 1995, examples of TB infection and sickness appeared throughout parts of the world which once considered themselves safe from this disease. In Minneapolis, a person with TB infected 41 people in a neighbourhood bar. A postal worker in Tampa, Florida was carrying TB bacilli as well as the mail. In Western Canada, a health care worker gave TB to 100 other people. In recent years, outbreaks of TB in wealthy countries have been investigated in discotheques, churches, subways, schools, airplanes, court rooms, and even on a riverboat casino.

million more people with the TB germ. No one can afford to ignore an epidemic of this magnitude.

How TB Kills

TB usually spreads when contagious people cough TB bacteria out of their lungs. These bacteria can remain suspended in the air for hours. People usually become infected with TB simply by inhaling these airborne germs. Studies show that TB germs remain alive for up to three years in closed environments.

While TB bacteria travel easily through the air, they proceed more slowly once inside a person's body. Many people's immune systems manage to keep the TB bacteria in check. In fact, only five to ten percent of people who become infected after breathing in TB bacteria will ever become sick with TB during their lifetimes. In approximately 20 percent of those who develop TB, the bacteria attack the spine, heart, lymph nodes, kidneys, and tissues surrounding the brain. But in most cases, the TB bacteria attack the victim's lungs.

In TB of the lungs, or "pulmonary TB," TB germs gradually destroy the living lung tissue. The bacteria eat ragged holes in the lungs where pus collects as the body struggles to fight the disease.



Everyone Is at Risk

Since TB is widespread and contagious, everyone is at risk. A potentially fatal infectious disease in one person is a threat to everyone's survival. This threat remains, even if the contagious person lives in a village thousands of miles away. Air travel and migration can quickly transport yesterday's frightening international news story into today's local headline.

In most developing countries, however, TB is now so widespread and transmission is so frequent that it is a rare occurrence to find a family or a business that has not been affected by TB.

It is easy to understand why the TB epidemic is growing. When a person is sick with TB--and not properly treated--that person will likely infect ten to fifteen people in a year. This cycle of transmission has continued unaddressed for decades in most developing countries. That is how one-third of the world's population--nearly two billion people--has already become infected with TB. In the next ten years, 90 million people are expected to become sick with TB. If current treatment practices continue, these sick people will infect at least 300

diff. levels of blame - national gov't
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true - does it rep one person / institutions
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Assaulted blood vessels often rupture, causing blood to seep into the lung cavities. For these reasons TB patients often cough up blood and phlegm.

People dying of TB are literally consumed by the disease, which explains why it was called "consumption" generations ago. Untreated, most people with pulmonary TB become feverish, exhausted, and emaciated to near skeletons. As their lungs are destroyed, the sick patients die through asphyxiation, or virtually drown in their own blood.

TB May Become Incurable

We face a nightmare of TB becoming impossible to cure in the future. Careless TB treatment practices are spawning TB bacteria that are resistant to once-

Recent Outbreaks of Multidrug-resistant TB

New York City

London

Milan

India

Thailand

South Africa

Estonia

Pakistan

effective drugs. Multidrug-resistant TB has the potential of returning humanity back to an era when the diagnosis of TB was a virtual death sentence.

Multidrug-resistant TB is created by humans. It develops when doctors or



other health workers prescribe the wrong drugs or the wrong combination of drugs. Drug resistance also occurs if the right anti-TB drugs are not taken on a consistent basis, or are not taken for the entire six months of treatment. Doctors should not prescribe powerful TB drugs without ensuring that they are taken correctly. *Reason for this*

Once a person becomes sick with multidrug-resistant TB, the most heroic medical efforts may not be able to save his or her life. In developing countries, people with multidrug-resistant TB usually die, because effective treatment is often impossible in poor settings. Even in wealthy countries, up to half of multidrug-resistant patients die of TB because of the expense and difficulty of treatment. Moreover, multidrug-resistance can raise the cost of treating a TB patient 100-fold. And multidrug-resistant TB can spread to other people just as easily as regular TB.

Although nobody knows exactly how far drug-resistant TB has spread, it is estimated that 50 million people are

Can this reverse
already infected with a drug-resistant form of TB. Frightening reports of incurable TB bacteria have come from all over the world, including Estonia, India, Thailand, and the United States. A 1995 study of regions in Pakistan showed that 75 percent of the TB patients had resistance to at least one drug, and over 40 percent had resistance to more than three drugs. In 1995, the first outbreak of multidrug-resistant TB occurred in the United Kingdom when four patients were infected with multidrug-resistant TB while in the hospital.

This threat of multidrug-resistant TB grows larger with every poorly treated patient. The World Health Organization estimates that today, nearly two-thirds of those who are prescribing TB medication are putting people at risk of drug-resistant TB. *out no Dr*

HIV Puts the TB Epidemic on Fast-Forward

The Human Immunodeficiency Virus (HIV) has quickened the pace at which

TB spreads. HIV compromises a person's immune system, dramatically speeding up the time a TB/HIV-infected person moves from TB infection to TB sickness. HIV-positive people infected with TB are 30 times more likely than HIV-negative individuals to get sick with TB.

HIV's ability to "fast-forward" the TB epidemic has frightening implications. For example, HIV has cleared the way for multidrug-resistant TB to spread through hospitals, quickly infecting both patients and health workers. With HIV on the scene, the consequences of negligent treatment are now visible in a matter of weeks rather than years. The HIV epidemic has revealed that most TB treatment programmes are in disarray, and that these programmes are giving incorrect medical treatment to TB patients.

So far, Africa has been hit the hardest by the TB/HIV co-epidemic. The crisis now also looms large in Asia, home to the majority of the world's TB-infected people. Also, practices most likely to cause the development of drug resistance are widespread in Asia. WHO has warned that much of Asia may be sitting on a

large drug-resistant time bomb waiting to be activated by the growing number of HIV-positive people.

Therapeutic Muddle

The TB epidemic is worsening primarily because of poor treatment. Inadequate or careless treatments are failing to cure TB patients among an ever-growing population, encouraging the spread of TB, and promoting the development of drug-resistant TB. In short, many health workers are using practices which simply do more harm than good.

One mistake that health workers make is "adding-on." Four drugs must be taken regularly during the first two months of TB treatment: isoniazid, rifampicin, pyrazinamide, and ethambutol (or streptomycin). But some care-givers will prescribe just one or two of these drugs. If the patient does not improve, the health worker will then add another drug to the treatment. This seemingly harmless approach is an easy way to create drug-resistant TB. Patients' germs are soon resistant to all available TB drugs, including those "added-on."

The most common treatment error occurs when health workers trust that their patients will take all of their anti-TB medicines regularly. In reality, patients frequently forget to take their medicines, or stop taking them once they start feeling better. Unpredictably, other patients will only take one type of pill and avoid the others because they are harder to swallow, seem more likely to upset their stomachs, or simply look less appealing.

From a public health perspective, one of the worst things that can happen during the course of TB treatment is that a TB patient is treated, but not cured. In other words, the patient is given enough

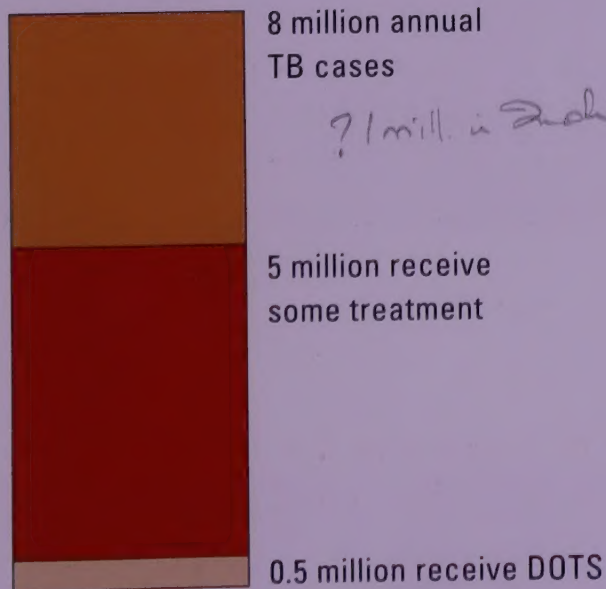
medicine to survive, but not enough to recover completely. If patients are not cured, all that this "treatment" accomplishes is to make contagious people well enough to go back into their communities and infect hundreds of other people.

The key is that TB patients throughout the world must not only be treated--they must be treated and cured. The strategy that has proven most effective in curing TB patients is called directly observed treatment, short-course (DOTS). The DOTS strategy uses a combination of four different drugs to kill TB bacteria within a six to eight-month period of treatment.



DOTS virtually guarantees a cure, since health workers actually watch patients swallow their medicines and evaluate their patients' progress. Widespread use of DOTS would soon reverse the course of the TB epidemic. But unfortunately, most of the world does not use DOTS--and most of the world still has a massive TB burden. And now, this tide of poor

DOTS Is Not Used



Source: WHO TB Programme

treatment practices is helping to carry the TB crisis to new shores.

Ignoring the Problem Has Invited Disaster

An unprecedented level of neglect has encouraged TB to spread out of control. During the 1970s and '80s, TB was seen as a low priority by those responsible for controlling infectious diseases. Medical colleges have under-emphasized the public health aspects of the TB epidemic. TB has been neglected in training for nurses, kept out of the daily work of primary health care systems, minimized by Ministries of Health, and disregarded by most donor agencies.

The result: TB is now the leading infectious killer of adults. It has become the principal killer of HIV-positive people and kills more women than all causes of maternal mortality combined.

8 TB has become a large burden on economies, killing or disabling millions of people in their most economically productive years. Refugees and other displaced people have been put at special risk, and countless children are becoming infected and losing their parents to the disease. And now, TB has returned with a vengeance to wealthy countries, often in incurable forms.

The "groups at risk" described in this report are awaiting a breakthrough. But a medical breakthrough will not save them. The knowledge and inexpensive drugs to eradicate TB from the human population have existed for decades. Rather, the world needs a breakthrough by people of power, influence, and compassion, who will see that these medicines are put to use effectively throughout the world.

TB has become a global emergency. And it will not go away on its own.

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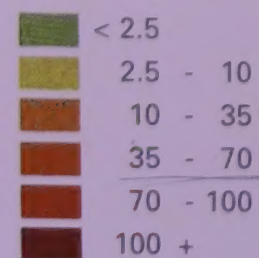
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TB Deaths per 100,000 People



Source: WHO Global TB Programme reports and national TB programme reports from select

E FROM TB...

FECTIVE WEAPONS

FIGHT IT

TB & WOMEN

TB is the leading single infectious cause of female deaths in the world. **TB kills over one million women every year**, accounting for more than 2,700 women dying of TB each day. As TB kills more women each year than all causes of maternal mortality combined, TB also deserves a place on the women's health agenda.

Women in their reproductive years have a higher risk of developing active TB than men of the same age. The hormonal and nutritional stresses of pregnancy might weaken a woman's immune system, increasing her susceptibility to developing TB in the post partum period. The majority of women who become sick with TB do so in their most productive years of life, those in which they raise children and perform other work: in the labour force, in the household, or in the fields. *- in offices + elsewhere! they assume manual work!*

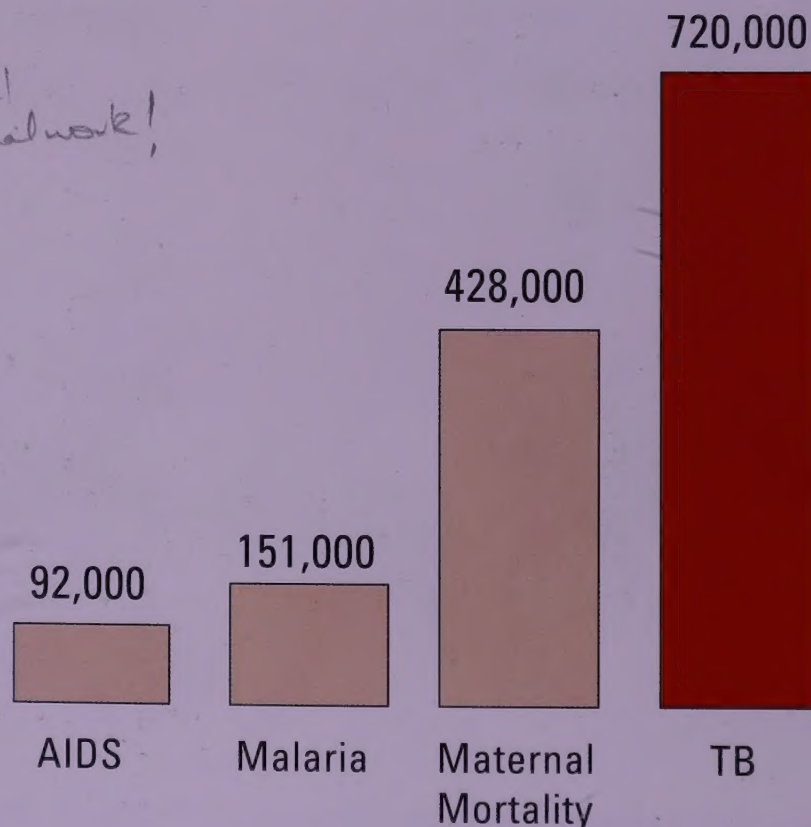
When this lethal disease takes its toll on women, their family members are also threatened by TB germs coughed into the household air. Because women have such close contact with their children, a mother sick with TB poses a real threat to her kids. It is common for mothers unwittingly to infect their children with TB before dying of the disease themselves.

The HIV/TB co-epidemic is also assailing women worldwide. The rise of HIV infection among women, especially in the developing countries, has contributed to the development of many more TB cases and deaths. For example, largely as a result of the AIDS epidemic, two New York City public hospitals reported seeing twice as many pregnant women with TB in 1991-1992 as had been seen in the previous six years combined.

It is estimated that of the approximately six million women sick with TB at any given time, **at least a third die because they are undiagnosed or receiving poor treatment.** There are a number of reasons for this neglect, but money, time, and transportation present the most significant barriers. Women

often find it more difficult than men to access health care services, because transport time and costs are greater for women when viewed in light of their dual responsibilities at work and at home. Also, some women have limited access to money, living in households where men control the purse strings and women are viewed as little more than property. Some women try to ignore their TB symptoms because they fear rejection or stigmatization from friends and family. Others simply lack basic information about diseases and their bodies.

TB Is a Leading Killer of Women



Mortality in Women and Girls Over Age 5. Source: WHO, "The global burden of disease in 1990" in Global Comparative Assessments in the Health Sector, Geneva, 1994

For example, Sarina, from Osh, Kyrgyzstan, is a 45 year-old single mother of three who has TB. She wants to get help, to cure herself and to protect her children, but has run up against the barrier of cost. "Under the Soviet system, health care was free," she says. "Now we have so little money and I cannot pay for these medicines."

Laxmi, a woman who lives near the Indian city of Patna, faces other difficulties. It takes her three hours to get to the free clinic to pick up her medicines, and another three hours to return home again. Some days, the clinic does not have the correct medicines. Time and time again, Laxmi's treatment is interrupted. She has been repeating this common cycle for years, and her illness is worsening.

These impediments to treatment make clear the importance of curing women by using the DOTS strategy. DOTS allows women to be treated successfully and affordably near their homes, thus eliminating expensive, time-consuming trips which can make effective treatment impossible.

TB deaths among women have major implications for child survival, economic productivity, and family welfare. Those who care about empowering women and saving their lives must recognize the enormous impact that TB is having on women worldwide, and must act to effect change.



WOMEN'S POTENTIAL

WASTED

TB & CHILDREN

Nearly 170,000 children die of TB every year. But TB's indirect impact on children is even more chilling than this annual number of childhood deaths. The TB epidemic also endangers millions of other children whose parents and grandparents become ill with the disease.

Children bear the brunt of their parents' TB when their mothers or fathers become too sick to provide for their families. Most of the nine million people who will become newly sick with TB in 1996 will be in their child-rearing years. The majority of TB deaths will also be among this age group. It is likely that **no other infectious disease creates as many orphans as TB.**

Parents often pass on the cruel inheritance of TB to their children. Children infected with TB have usually been infected by their parents, grandparents, or neighbours who are sick with the disease.

For example, Agnes Kariuki, a four-year old in Kenya, watched her mother and father die from a disease that her grandmother calls Kifua Kikuu, which is Kiswahili for "the terrible chest." Not only is Agnes now an orphan, she is also infected with the same TB that killed her parents.

WHO estimates that in 1995, of all children under 15 years of age, at least 180 million were infected with TB. In China, one survey showed that nearly 20 percent of 14 year olds were infected with TB. And in the United States, the number of children under age 15 sick with TB increased by 35 percent between 1985 and 1992.

The very young, especially those under the age of two years, are more susceptible than other age groups to the most deadly forms of TB. While most infants who get TB suffer TB of the lungs,

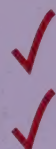
they are also much more likely than adults to develop miliary TB or TB meningitis. Miliary TB occurs when TB bacteria travel through the bloodstream to develop disease in organs such as the liver and spleen; TB meningitis develops when TB attacks the brain and spinal cord. These complicated and painful conditions are usually fatal if incorrectly treated; and many children who survive TB meningitis suffer severe brain damage.

Fortunately, a vaccine exists which can help to protect children from TB. The vaccine, known as BCG (Bacillus Calmette-Guerin), is 50-80 percent effective in infants. However, the

vaccine is unable to prevent most contagious forms of TB in adults. Therefore, while BCG can help to control the serious forms of TB often found in children, it is unreliable protection after adolescence.

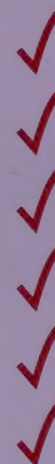
BCG Leaves Children Vulnerable to TB

BCG



- Low-cost health intervention
- Effective against non-pulmonary TB
- Prevents transmission of TB in community
- Protects parents from TB
- Effective when children reach adolescence
- Nearly 100% effective against all forms of TB

DOTS

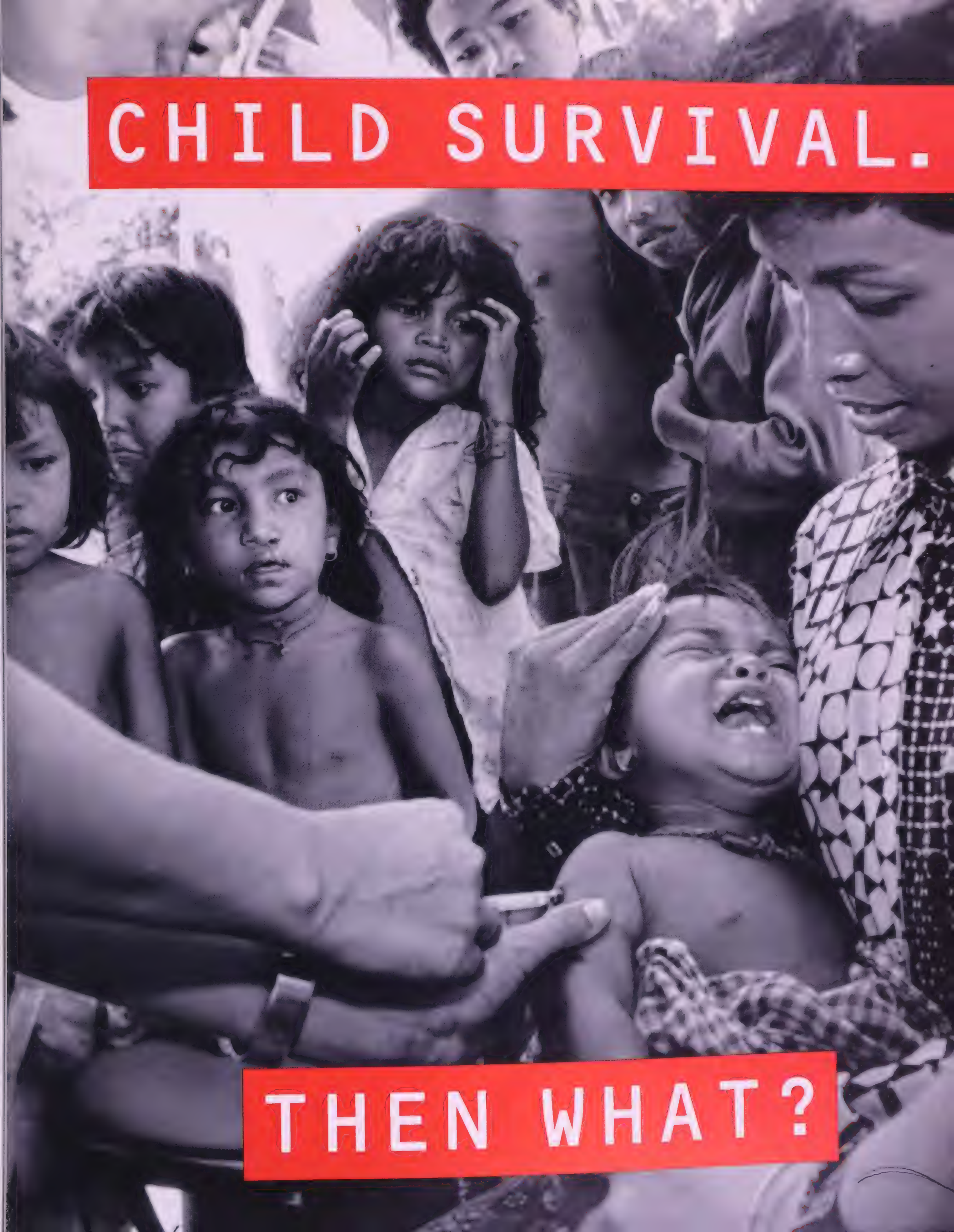


Child survival programmes using vaccines such as BCG have achieved some of the greatest public health successes of the past decade. But many health officials believe that more can be done. **Children should not be saved from TB infection in childhood, only to be left as targets for TB as they mature into young adults.**

Fortunately, a highly cost-effective solution exists for this killer of children, adolescents, and adults.

The DOTS strategy used to fight TB is as successful and economical as childhood vaccinations. But while the WHO Expanded Programme on Immunizations reaches over 80 percent of the world's children, the DOTS strategy has not yet been adopted by most countries, and therefore covers only about 20 percent of all TB patients. Moreover, DOTS provides an indirect, double benefit for children: it improves child survival by providing children with healthy families and it protects their health as they grow into adulthood.

Source: WHO Global TB Programme



CHILD SURVIVAL.

THEN WHAT?

TB & HIV

Summarise the points of the article

Most people are unaware of the enormous and deadly role TB is playing in the AIDS epidemic. Over the past ten years, TB has begun to take the lives of more and more HIV-positive people. Already, **more HIV-infected individuals die from TB than from any other cause.** In one out of every three people who die of AIDS, it is tuberculosis that actually kills them.

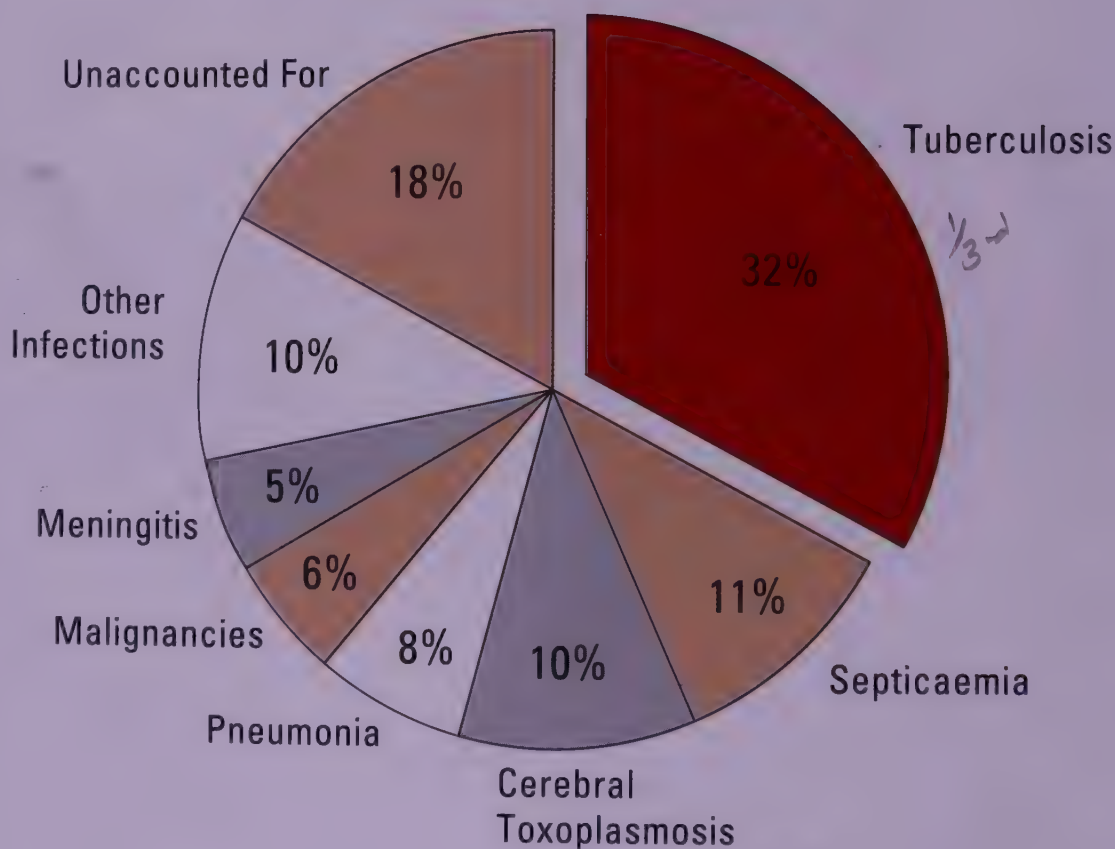
The lethal association between the two diseases is frighteningly simple. HIV destroys a person's immune system, leaving the HIV-infected person highly susceptible to TB germs. An HIV-positive person is more likely than others to become infected with TB. And when an HIV-positive person is infected with TB, it is very likely that he or she will get seriously sick with TB.

The vicious partnership reaches beyond those who are HIV-positive. **Tuberculosis is the only major opportunistic infection which can spread through the air to HIV-negative people.** Therefore, as HIV/TB dual infections continue to rise, TB will spread more quickly to otherwise-healthy populations. WHO forecasts that in the next four years the spread of HIV will cause more than three million new TB cases. If the world fails to respond to the TB and HIV epidemics, the situation will grow even worse.

attributable to HIV in Asia will rise from two percent in 1990 to 14 percent by the year 2000.

TB goes unrecognized or incorrectly treated in up to two-thirds of all HIV-positive people with TB. Health workers commonly fail to ensure that sick people take their medicine consistently. And many patients are treated with inappropriate TB drugs that can have serious side effects in HIV-positive people. One potentially dangerous drug is thiacetazone, which can cause the skin to peel painfully off the bodies of up to 20 percent of those HIV-positive patients if treatment is not properly managed.

TB Is the Leading Killer of HIV-Positive People



Source: Study of prime causes of death in HIV-positive patients, Abidjan, 1991.

It is estimated that 266,000 HIV-positive people will die from TB this year. Yet, even in HIV-positive people, TB can be cured if diagnosed in time and treated properly. Good TB control programmes are some of the best things that can be done to protect and extend the lives of HIV-positive individuals. With correct TB treatment, **HIV-positive TB patients can gain an average of two additional years of life.** — *What does mean for the*

Those who care about AIDS must become aware of TB's huge role in the AIDS epidemic. The answer to combatting TB's spread among both HIV-positive and HIV-negative people is directly observed

treatment, short-course (DOTS). DOTS requires that patients are monitored while taking their medicine, and evaluated in their progress. And DOTS can achieve excellent TB cure rates even in these dually infected individuals. In light of HIV, TB programmes using the DOTS strategy must be coordinated at local and national levels with HIV control programmes. With proper attention, techniques, and resources, the doors can be slammed on the TB/HIV epidemic before it grows any worse.

WORKING TOGETHER



AGAINST US

TB & THE WORKFORCE

Arguably, no other infectious disease is crippling the world's economies more than tuberculosis. **Of the nearly 15 million people sick with TB today, 11 million are in their most economically productive years of life.**

For a tiny germ, the TB bacterium takes a huge financial and human toll. Researchers recently found that the Thai economy may lose the equivalent of seven billion US dollars by the year 2015, solely due to TB sickness and death. **In India, the estimated loss of economic output due to TB deaths reaches at least \$372 million every year.** And the American Lung Association has testified that improvements in global TB control could result in increased economic output by developing countries in the range of \$24 billion annually.

TB undermines economies in a number of ways. When breadwinners are too sick with TB to work, they and their families become impoverished. Additionally, family members must often care for the sick person, so the family loses other income opportunities. In all of these ways, **TB can reduce self-sustaining families to beggars or welfare recipients.**

On a larger scale, the output of factories and corporations suffers when their employees miss months of work. Often, benefits must be paid and new employees must be trained. Also, people who are sick with TB often stop earning money which they would have spent and fed back into the economy.

The TB epidemic also causes disruption in the workplace when contagious employees transmit the infection to their co-workers. In a shipyard in Maine, a labourer infected 417 co-workers with TB bacteria. On an American airline, a flight attendant infected two other members of her cabin crew. Two dentists recently contracted TB from their patients. In Phoenix, Arizona, 125 firefighters have tested positive for TB, representing a dramatic increase over previous years.

Some segments of the workforce are hit harder than others. For instance, doctors, nurses, medical students, and health workers all over the world are routinely exposed to TB bacteria. One study showed that 68 percent of all health professionals in Thai hospitals were infected with TB; and in one Thai hospital, 19 medical staff became sick with TB within a six-month period of time. Also, large numbers of nurses in hospitals throughout sub-Saharan Africa are dying of TB as well.

TB is also especially common among migrant workers, who often come from areas where TB is endemic. When the migrants develop TB they often remain untreated, as

health systems tend to overlook mobile individuals. They can then spread TB to others in crowded temporary housing and can infect otherwise healthy populations as they move through new towns and countries.

TB's spread has been seen among Latin American migrants who move to the United States to work on farms, as well as among miners who travel from

Eastern Europe to work in Western Europe. Workers' hostels in Namibia's fishing industry are ripe sites for spreading TB. The disruption TB is having on the workforce is ironic, given that **TB is one of the most cost-effective diseases to treat.** This is why the World Bank ranks the DOTS strategy of TB treatment as "among the most cost-effective of all interventions" in fighting global infectious diseases.

Curing patients is the cheapest and most effective TB prevention strategy. It is cheaper to cure TB in contagious people than to spend money on expensive ventilation systems, ultraviolet lighting schemes, or other strategies. These efforts to keep deadly germs away from healthy people may appear to be a good idea, but in reality their effectiveness is marginal. The best investments that can be made are in diagnosing and curing TB patients. The bottom line is that **spending on TB control is an investment in human productivity and economic performance, not a drain on the economy.**

"Alleviating suffering of people" no longer on agenda!

TB Slows Workforces of Emerging Economies



A black and white photograph of a garment factory. In the foreground, a woman in a dark short-sleeved shirt is operating a sewing machine, looking down at her work. A young man in a light-colored t-shirt stands next to her, with his hand on her shoulder. In the background, other workers are visible at their sewing machines. The scene is industrial and busy.

UNPROFITABLE

CONSUMPTION

TB & TRAVELLERS

Contagious diseases are thriving as the world's population becomes more mobile. Today, individuals from all corners of the globe fly from country to country to conduct business, enjoy vacations, and attend school. Global trade has multiplied six-fold since 1960, and the number of people travelling in airplanes has increased 17-fold in the same period of time. United States citizens received over 20 million foreign visitors last year and took nearly 60 million trips to foreign countries. This global mobility is certain to increase in the future.

While international travel has accelerated dramatically, the world has been slow to recognize the implications for public health. Plague-like diseases no longer journey for months across the ocean, and walk with their hosts down gangplanks to infect new populations. Rather, germs and viruses now criss-cross the continents in a matter of hours.

Tuberculosis bacteria have been collecting their share of frequent-flier miles. Documented TB transmission on airplanes includes a 1994 case in which a Korean woman sick with TB took a flight from Chicago to Honolulu and, during the flight, infected four people seated nearby. A few months later, the woman died from TB.

percent of the city's TB cases were foreign-born, coming mainly from Mexico. In many Northern European countries at least half of the TB cases occur among foreign-born individuals.

It is hard to imagine how any nation can protect its citizens from potentially-infectious visitors. The majority of people infected with TB are not yet sick. In fact, most people are not even aware that they are infected. TB bacteria are global stowaways, sneaking

free rides into new locales by hiding undetected inside millions of unsuspecting people. However, once infection turns into illness, the host can become contagious.

The lesson to be learned is that **every country is vulnerable to the poor TB treatment practices of other countries.** The world's governments can no longer watch infectious diseases spread out of control and become drug-resistant in foreign lands, naively believing that these germs will never reach their own citizens.

It is crucial to support correct and effective global TB control efforts for everyone's benefit. Clearly, **infectious diseases must be fought globally to protect people locally.** In the long term, the best way to protect uninfected populations is to cure TB in infectious people, wherever they

might be found in the world. If the world's wealthy countries spend just five to ten percent of their domestic TB control budgets to help fight the epidemic in the worst-affected parts of the world, the TB epidemic could be reversed and multidrug-resistant TB bacteria would no longer pose a threat.

TB Bacteria Spread Easily

One person in a Minneapolis bar may have infected 41 people



One person on an airplane may have infected 4 people



One worker in a U.S. shipyard may have infected over 400 people

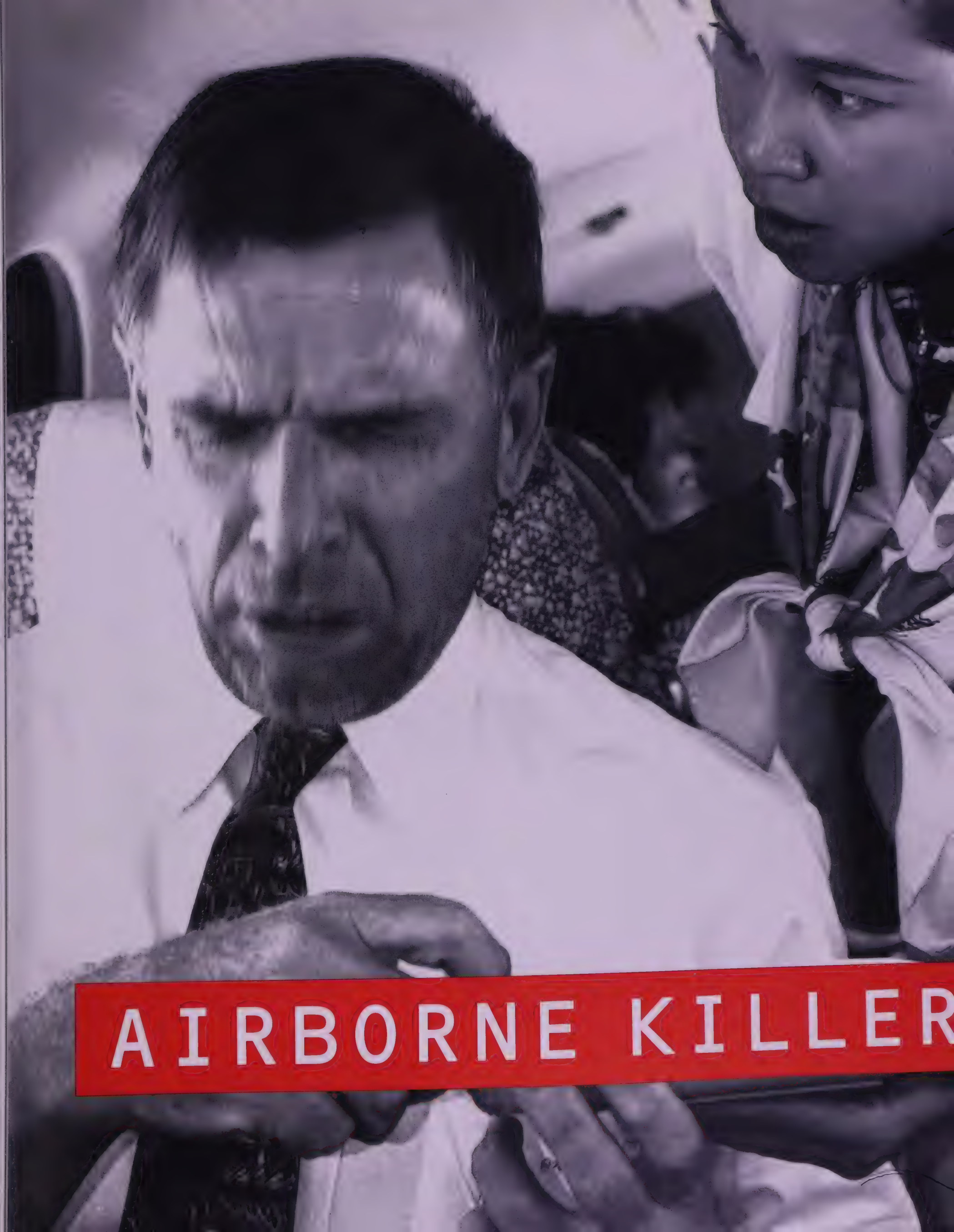


One contagious person, on average, infects 10 to 15 people with TB each year



Sources: New England Journal of Medicine, July 27, 1995; U.S. Centers for Disease Control and Prevention, March 1995; unpublished report from Mishu B., Gensheimer K., Bogden G., et al. "TB outbreak in a shipyard;" WHO Global TB Programme estimates.

People travel across and within borders for a variety of reasons and, with greater frequency, change residency altogether. In numerous European and North American countries, and in Australia, the majority of newly-reported TB cases are occurring among foreign-born individuals. In El Paso, Texas, nearly 50



AIRBORNE KILLER

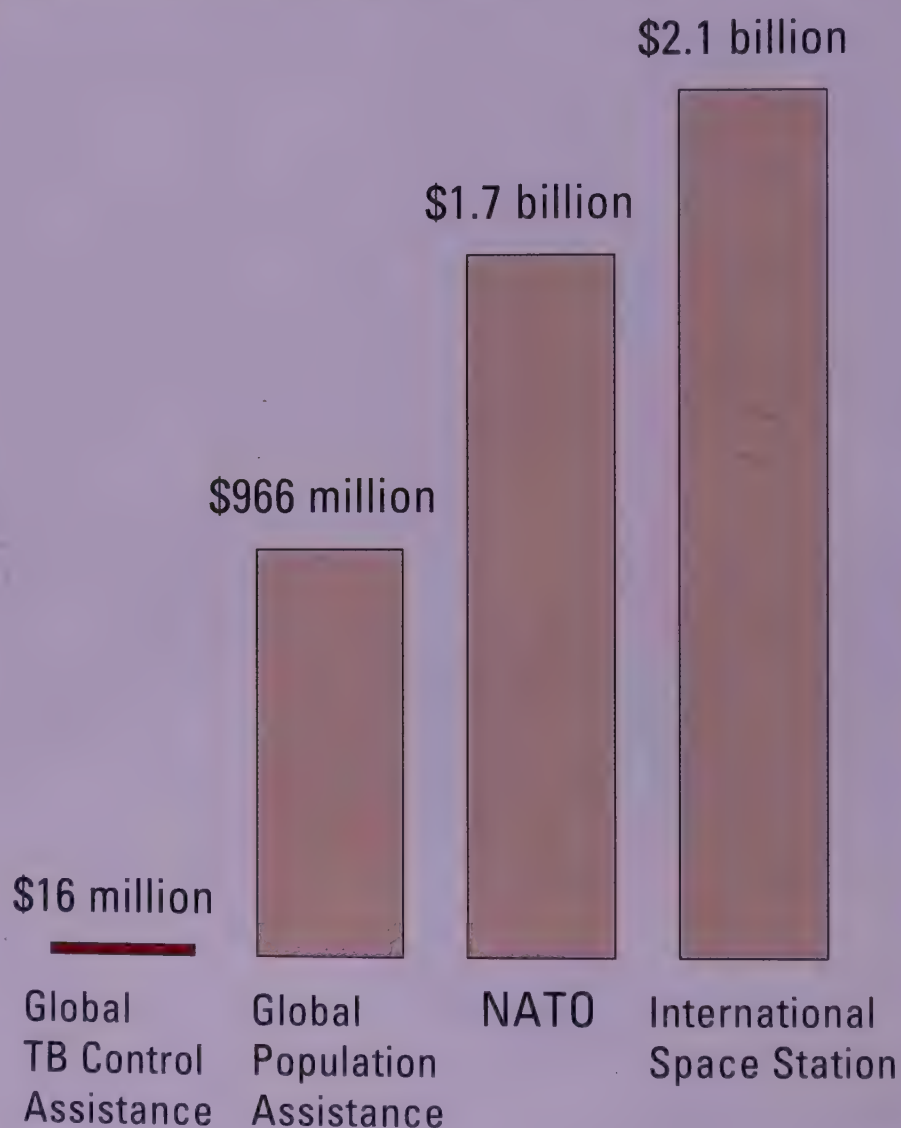
TB & THE WEALTHY

Once a disease affecting all levels of society, TB killed countless members of the artistic and intellectual communities. But after the discovery of antibiotics, TB was exiled to the poorer regions of the world. Today, after decades of decrease, TB is back in wealthy communities. TB cases are on the rise in Denmark, Norway, the Netherlands, Italy, the UK, and other industrialized nations. Last year, TB outbreaks were reported from the prestigious Churchill Downs racetrack and the Prince of Wales' estate.

In response, the world's richest countries have been taking extraordinary steps to protect their citizens from TB. In Europe and North America, tens of thousands of school children have been tested for TB after exposure to infectious classmates. Labour unions are demanding that expensive ventilation systems be installed to protect workers from airborne TB bacteria. Some hospital workers are being required to wear expensive anti-TB protection equipment that can cost tens of thousands of dollars per employee. \$64 million was needed recently to construct an isolation facility in a New York City prison to control the spread of multidrug-resistant TB there.

But these expensive strategies are not the best way to fight TB. They have two main drawbacks: they require large amounts of money to attempt to protect small numbers of individuals; and they have no impact on stopping the spread of TB on a global scale. They also do little to stop the emergence of potentially incurable multidrug-resistant TB. Deficient treatment practices can cause TB bacteria to become multidrug-resistant and cost as much as \$250,000 per patient to cure. If transmitted to others, these bacteria can constitute an even more costly public health threat.

TB Control Is Also an Investment in Our Future



Annual International Public Funding for Global Concerns. Sources: "External Aid Flows for Infectious and Parasitic Diseases in 1990," WHO, in "Global Comparative Assessments in the Health Sector," Geneva, 1994; "Global Population Assistance Report, 1993," United Nations Population Fund, New York, 1993; North Atlantic Treaty Organization (NATO), Planned Budget 1994, in Annex to Defcon(95)93; National Aeronautics and Space Administration (NASA), International Space Station capped budget, 1994.

If done right, TB control can protect all of us, and need not be expensive. TB medicines cost as little as \$11 per patient in parts of the world and are 95 percent effective. Yet every year, donor countries make only tiny financial stabs at global TB control. In 1990, the world's foreign aid programmes spent just \$16 million to help fight eight million new TB cases in developing countries. The American Medical Association estimates that in the United

States alone that same year, just 26,000 cases cost the country approximately \$700 million. Nearly one-third of these U.S. cases were foreign-born. These figures have led the U.S. Centers for Disease Control to stress the importance of investing in global TB control as a means of eventually reducing the number of domestic TB cases.

The global TB problem must become a higher priority for wealthy countries. An estimated \$100 million annually in foreign aid is needed from the world's wealthiest countries combined, in order to stop TB. This expenditure would represent a minimum of 0.2 percent of the foreign aid budgets of donor governments and could help all of the world's poorest countries establish TB control programmes which utilize DOTS.

Certainly, comparison shopping is useful when deciding on how best to spend scarce public health resources.

The \$100 million per year to use existing medical tools to save millions of lives from TB is less than the \$150 million it costs to rent the space shuttle once to attempt to discover new ways to fight other diseases. \$100 million could be used to save just 400 people dying from multidrug-resistant TB; or the same amount of money could eventually save one million lives every year, and also prevent multidrug-resistant TB from developing in the first place.

... meaning the contradictory interests ...



UNWILLING

TO COUGH UP

THE MONEY

DOTS: ELIMINATING THE RISK

The secret to curing TB is as simple as making certain that patients regularly swallow the right medicines. This supervision is the cornerstone of the World Health Organization's recommended TB control strategy, known as directly observed treatment, short-course, or "DOTS." DOTS is the only viable method for reducing TB transmissions and deaths worldwide, and preventing the emergence of multidrug-resistant TB bacteria.

What Is DOTS?

DOTS is a strategy that provides the most effective medicines to TB patients, ensures that they regularly take these medicines until they are cured, and monitors their progress toward cure. DOTS uses a specific combination of anti-TB medicines, featuring the drugs isoniazid, rifampicin, pyrazinamide, and ethambutol (or streptomycin). This standardized regime, known as short-course chemotherapy, is nearly one hundred percent effective in obliterating TB bacteria from the body when properly taken. These medicines provide the safest, most powerful knockout punch against TB in the shortest amount of time.

Supervision is the key to successful TB treatment. If the patient does not complete treatment, or occasionally forgets to take the medicines, he or she may never be cured. With the DOTS strategy, the patient swallows the medicines under the watchful eye of a health worker, community volunteer, or



even a trusted family member. The TB patient is almost always cured if these medicines are taken regularly for the entire length of treatment.

The DOTS strategy also includes a rigorous evaluation and monitoring system which makes it possible to track the patient's progress. Each patient coughs up phlegm, called sputum, which is then examined under a microscope and checked for TB bacteria. A system of record-keeping and reporting helps health workers and TB programmes to monitor the progress of patients toward cure.

It is always critical to check the patient's sputum for signs of remaining TB bacteria after two months of treatment with four drugs. If the patient is still contagious, intensive treatment can be continued for a third month. At the end of two or three months when the patient is no longer contagious, treatment with only two drugs can be continued for the rest of the cure. Checking the sputum at the end of treatment provides essential proof to the doctor and the patient that cure has been achieved. It also enables community and government leaders to evaluate their health services to ensure good performance and value for money.

Why DOTS?

DOTS is necessary because the most serious impediment to controlling TB is that patients often interrupt or stop their treatment. TB patients move away, forget to take their medicines, can no longer afford to buy the drugs, or feel better and simply decide to stop taking the medicines.

DOTS directly addresses this problem by making it the responsibility of the health system--not the patient--to ensure that treatment is completed. The results of this strategy have been impressive:

- DOTS produces cure rates as high as 95 percent. No other TB control strategy has consistently demonstrated such high cure rates.

- DOTS stops TB bacteria at the source. Curing contagious patients is the best way to prevent TB bacteria from spreading to others.

- DOTS prevents multidrug-resistant TB from developing. Patients need to take the drugs for six to eight

"DOTS"

Directly Observed Treatment, Short-course

Directly observed treatment, short-course is the key to stopping the TB epidemic. Health workers must watch their patients swallow each dose of medicines and monitor their patients' progress until the patients are cured. This supervision must continue every day for the first two months and, ideally for all six months of treatment.

Primary Health Care and DOTS

The DOTS strategy joins forces with primary health care (PHC) to transform TB cure rates from 40 percent to 80 percent and higher. By curing contagious TB patients, PHC workers eliminate the source of infection in the community and thus prevent the spread of TB. Effective TB control through DOTS achieves the kind of results that can increase the performance of existing primary health care services.

The DOTS strategy requires no specialized staff in primary health institutions. Rather, existing health personnel or community workers can be used to provide the supervision of TB patients. The DOTS strategy is based on the efficient management of resources and on supervision by a central TB unit to ensure that health workers have the correct TB drugs on hand, and also on a TB supervisor to encourage problem-solving in each local setting. A DOTS system uses planning, monitoring, and corrective action to ensure cure. DOTS focuses on accountability and results in PHC and provides the tools to respond to communities' needs.

months without interruption to guarantee this outcome.

DOTS provides countries and economies with substantial savings in lost workdays and future medical costs. Few public health expenditures provide so much value for so little money. In fact, on the basis of the most detailed studies currently available, the DOTS strategy for sputum positive TB patients is the cheapest of all health interventions available in developing countries per death averted and per year of life saved. Medicines for DOTS cost only \$11 per patient in some parts of the world: a scant amount which could nonetheless sharply reduce the three million TB deaths a year.

How Is DOTS Used?

DOTS is administered by health workers, health volunteers, or family members, usually through the primary health care system. Sometimes, TB patients visit a local clinic regularly to receive their medicine. In other cases, the supervisor will visit the patients' home or workplace to watch them take their

medicines. In some serious situations, where the patient is very sick or lives in a remote area, the patient will be hospitalized for treatment.

In the DOTS strategy, the basic components for organizing a national TB programme and the guidelines for treating TB are exact. However, this strategy is flexible and can be applied in many ways. Supervision can be accomplished by having the patient visit the clinic, hospitalizing the patient, or sending a health volunteer to visit the patient's

home or workplace. A constant hindrance is that the supply of drugs to clinics is often interrupted. Inadequate drug distribution systems often prevent patients from receiving the right medicines for the correct length of time, causing dangerous disruptions in TB treatment. In order to prevent such difficulties, primary health care services must be supported by central TB unit leadership. This central control provides support to the local health workers in the form of training, as well as evaluation of the outcomes of their treatment services.

When Was DOTS Developed?

After World War Two, TB rates began a steep decline in industrialised countries. This drop was primarily due to the discovery of a number of effective anti-TB medicines. At that point, most patients were hospitalized for many months, and needed to take medications for up to two years, in order to be cured of TB.

Unfortunately, the existence of effective drugs did little to alleviate the TB problem in developing countries. Many of these poorer countries simply lacked the health care infrastructure to hospitalize so





Where Is DOTS Used Now?

The World Health Organization's 1995 Report on the TB Epidemic described the success of the DOTS strategy in Tanzania, China, and New York City. DOTS has helped these TB control programmes nearly to double their cure rates. In the last few years, other countries have also begun adopting the DOTS strategy and are also achieving high cure rates.

Guinea, Peru, and Bangladesh represent three new TB-control success stories. In the 1980s, TB was widespread in each of these three countries and TB control efforts were in disarray. In Guinea, many health centres lacked the correct tools to diagnose TB, and TB treatment took 12 months or longer to complete. In Peru, TB drug supplies were constantly being disrupted due to administrative problems and the lack of funding. And in Bangladesh, the majority of TB patients were failing to complete their treatment, resulting in cure rates of less than 30 percent.

Although well-intentioned, these disorganized treatment programmes were

frequently doing more harm than good to TB patients and the community. Incomplete treatment was creating chronic TB cases, which were causing increased transmission of TB to other people. In some cases, these TB control programmes were unwittingly helping to create and spread drug-resistant TB bacteria.

In 1989, the governments of Guinea and Peru both decided to tackle the problem and establish a new National TB Programme. In 1993, with the help of the World Bank, the government of Bangladesh took similar action. WHO worked with the Ministry of Health of each of these countries to develop a TB control plan and prepare a manual of TB treatment guidelines for health workers.

The backbone of TB control in all three countries is a DOTS strategy which ensures that all patients are supervised and evaluated as they take their medications. The rapid implementation of the DOTS strategy in these countries has been impressive. By 1995, each of the 34 districts in Guinea had a centre for TB diagnosis, and 346 health centres were helping to identify potential TB patients. A year after beginning in Bangladesh, a



many TB patients. Fortunately, two important developments led to the development of the DOTS strategy, which has made it possible for developing countries to begin controlling TB.

Beginning in the 1960s, a variety of researchers experimented with different combinations of anti-TB medicines and different courses of treatment. The research of Sir John Crofton, Dr. Wallace Fox, and others led to the development of short-course chemotherapy, the six or eight-month treatment programme promoted by WHO today. This efficient regimen shortened the treatment time of TB patients by half. It works by hitting the TB bacillus with four drugs at once, killing the maximum number of bacilli in the shortest amount of time.

In the 1980s, medical teams began to apply the use of short-course chemotherapy in field conditions. These projects were conducted by Dr. Karel Styblo in Tanzania. The projects eventually found that short-course chemotherapy could be used successfully when treatment was observed by a health worker in hospitals or general health services. As a result, it is now possible for developing countries to make real progress against TB--like industrialized countries made 40 years ago--only much more rapidly and at a much lower cost.

new National TB Programme was operating, providing comprehensive staff training and the creation of more TB diagnostic and treatment centres.

By 1995, 80 percent of TB patients were being cured in the parts of Guinea, Peru, and Bangladesh where DOTS was being used. From 1991-1994 in Peru, the treatment and cure of contagious cases is estimated to have prevented 1.5 million new TB infections. The National TB Programme has also actually reduced the number of new TB cases in the country.

Other countries are just beginning to establish DOTS projects. For example, in India, pilot projects in New Delhi, Gujarat, and Bombay are using DOTS and are doubling their previous cure rates. The government of Viet Nam has also just begun a project to expand their effective DOTS programme to cover the whole nation.

Who Else Needs DOTS?

The DOTS strategy needs to be put in place in many other countries plagued by TB. The disease is already endemic in Southeast Asia and Africa, and will cause ever-growing hardship in these regions, especially in concert with HIV. Russia and Eastern Europe have also seen their numbers of TB cases surge upwards, with some regions experiencing higher TB rates than those found in parts of Africa. In the last decade, few countries in Latin America have succeeded in bringing down the number of TB cases. Industrialized countries are not exempt either: cities such as Milan, Montreal, Amsterdam, Dallas, and Paris, are just a few examples of places which have seen more TB in the past several years.

Risk groups--such as refugees, women and people with HIV--can particularly



"The DOTS strategy is the best intervention available to stop TB in rich and poor countries alike" -

Dr. Hiroshi Nakajima, Director-General, World Health Organization

benefit from the DOTS strategy. The Global TB Programme is currently researching new ways to ensure that DOTS is made more widely available to these and other groups with special needs. This research is important so that society's most vulnerable groups are not overlooked in TB control efforts.

Tuberculosis is a moving target. Drug-resistance and HIV have recently complicated the control of TB, demonstrating why innovative TB research is needed for the sake of future generations. While today, DOTS is a highly effective health intervention, new scientific discoveries could make DOTS even better. For example, doctors are currently using antiquated tools to detect and diagnose TB. These tools should be simplified and improved. Additionally, the time that it takes to cure a TB patient could be significantly shortened if new medicines are discovered. For these reasons, the World

Health Organization's Global TB Programme is actively promoting the development and assessment of new tools to control TB.

It Is Time to Eliminate the Threat of TB

In 1995, for each person who died of Ebola, 12,000 people died of TB. If TB were a new disease, it is certain that the world would spare no expense to fight it. The problem is that TB has been with the world for centuries. The disease has become an old, familiar enemy which we have learned to overlook.

DOTS is the solution for getting rid of TB. Numerous countries have proven that DOTS can destroy this ancient scourge--cheaply, and effectively. In short, TB has overstayed its welcome. The time has come to kick this unruly guest out the door.

THE WORLD'S RESPONSE TO THE TB EPIDEMIC

Three years ago in London, the World Health Organization declared TB a global emergency. It was the first time that such an urgent pronouncement had been made. Alarming information was presented on how already endemic TB would continue to spread throughout the world, increasingly in multidrug-resistant forms. The disturbing revelation emerged that a cost-effective solution to the TB epidemic was not being used.

Three years later, much more is being done to fight TB. A number of donors have responded to the emergency, and a variety of non-governmental organizations (NGOs) have stepped forward with impressive new initiatives. WHO itself has doubled its budget for fighting TB.

Yet, the TB epidemic continues to outpace these new efforts. For many world leaders, the horrific extent of TB's spread has yet to "sink in". Many policymakers in industrialized and developing countries alike fail to respond to the warnings that their constituencies are at serious risk from TB.

TB remains the leading infectious killer of adults. Without more TB control activities using the DOTS strategy, the disease will continue to infect and to kill more people with every passing year. If the DOTS strategy is not immediately put to use, increased drug-resistance could leave future generations with no means of controlling TB.

More Countries Are Implementing DOTS

Since 1993, many countries have begun to implement National TB Programmes based on the DOTS strategy. While just out of the starting gate, the world needs to break into a gallop in the race against TB. Not enough countries have yet

adopted DOTS, which is especially crucial in countries that contain the largest number of TB cases. If the DOTS strategy were used throughout a dozen large countries--such as Bangladesh, Brazil, China, Ethiopia, India, Indonesia, Mexico, Nigeria, Pakistan, Russia, South Africa, and Zaire--nearly three-fourths of the world's TB cases could be cured. As of 1995, only five of these 12 countries had aggressively committed to establishing and expanding TB control based on DOTS.

Some Donors Rally, Others Dally

Some donor governments have taken the lead in responding to the global emergency, recognizing that a little money can go a long way in controlling the further spread of TB. Unfortunately, other donor governments have yet to add TB control to their foreign aid agendas. Several even persist in championing strategies that are known to be far less effective than DOTS in reversing the spread of TB. *? which ones? Allies!*

The World Bank continues to be the largest single financial institution assisting developing nations in their efforts to establish good TB control programmes. Having achieved considerable success in assisting China's TB project, the World Bank is attempting to duplicate this TB success story in

Countries Implementing DOTS

Partial List of Low and Middle-Income Countries

Before 1993	Beginning to Use DOTS	Majority of Patients Receive DOTS
Benin		✓
China	✓	
Guinea	✓	
Malawi		✓
Mozambique		✓
Nicaragua		✓
Tanzania		✓
Viet Nam	✓	
After 1993		
Algeria		✓
Angola	✓	
Bangladesh	✓	
Benin		✓
Bolivia	✓	
Botswana		✓
Brazil	✓	
Burundi	✓	
Cambodia	✓	
China	✓	
Cote d'Ivoire		✓
Egypt	✓	
Ethiopia	✓	
Ghana	✓	
Guinea		✓
India	✓	
Indonesia	✓	
Iran	✓	
Kyrgyzstan	✓	
Lesotho		✓
Madagascar	✓	
Malawi		✓
Mongolia	✓	
Mozambique		✓
Namibia	✓	
Nepal	✓	
Nicaragua		✓
Nigeria	✓	
Pakistan	✓	
Peru		✓
Poland	✓	
Republic of South Africa	✓	
Russia	✓	
Senegal		✓
Sudan	✓	
Tanzania		✓
Uganda	✓	
Viet Nam		✓
Zaire	✓	
Zambia	✓	

other countries, such as India, Bangladesh, Kyrgyzstan, Uganda, Viet Nam, and Zimbabwe.

Since 1993, a number of new agreements have been signed between bilateral aid agencies to assist TB control efforts in developing countries (see box below). Some foreign aid agencies are now recognizing that TB control gives outstanding value for money. Not only is TB control protective of the breadwinners of emerging economies, it is also an investment in protecting the health of taxpayers in donor countries.

Large NGOs Remain on the Sidelines

Some of the world's largest foundations and development NGOs have been conspicuously silent on the TB epidemic. The contribution of larger relief and development NGOs--especially those devoted to the welfare of children, women, refugees and low-income people--is sorely needed. It is also essential that

Recent Bilateral TB Initiatives

Britain	\$730,000 for India '95-'97
Denmark	\$10 million over 10 years for Ghana
Germany	\$2.8 million for Namibia, Zambia & southern Africa '96-'99
Netherlands	\$13 million for Ethiopia '96-2000, \$1 million for Zimbabwe '95-'99

NGOs Involved in World TB Day

24 March is World TB Day. It commemorates Robert Koch's presentation of his discovery of the TB bacilli in 1882. In spite of this discovery, and the subsequent development of highly effective anti-TB medicines, TB killed more people in 1995 than at any other time in human history. Determined to alert the world to this crisis, a large number of NGOs conducted advocacy activities during World TB Day 1996. The following is a partial list:

	Phone	Fax
International Union Against TB & Lung Disease (IUATLD)	33-1-46-33-08-30	33-1-43-29-90-87
KNCV	31-70-354-3843	31-70-358-4004
Damien Foundation	32-2-422-5911	32-2-422-5900
German Leprosy Relief Association	49-931-3521-0	49-931-3521-160
Japan Anti-TB Association	81-3-3292-9211	81-3-3292-9208
Norwegian Heart and Lung Association	47-22-22-24-50	47-22-22-38-33
MERLIN	44-171-229-4560	44-171-243-1442
SIDAlerte	33-78-60-6565	33-78-60-6767
INMED	1-703-444-4477	1-703-444-4471
Action Coalition	1-301-270-5565	1-301-270-5565
GRAMEEN Bank	880-2-805-755	880-2-806-319
Bangladesh Rural Advancement Committee (BRAC)	880-2-884-180	880-2-883-542
American Association for World Health	1-202-466-5883	1-202-466-5896
Health Unlimited	44-171-928-8105	44-171-928-7736
British Lung Foundation	44-171-831-5831	44-171-831-5832
AIPO (Associazione Italiana Pneumologi Ospedalieri)	39-331-81-0070	39-331-84-5511
Federazione Italiana Contro La TB	39-6-44-24-06-82	39-6-44-24-06-82
Phillipines TB Society	632-62-20-55	
NAMTA (Namibia)	264-61-239-400	264-61-220-070
South Africa National TB Association (SANTA)	27-11-29-96-36	27-11-333-9057
Tanzania Leprosy Association (TLA)	225-51-20261	
Comite Nationale Antituberculose de Cote d'Ivoire	225-24-4306	225-37-9313
AGLAT (Guinea Conakry)	224-40-2058	224-40-2058
CALTMR (Algeria)	213-274-5415	
Action TB	14-38-763-841	14-38-764-782
Western Cape TB Alliance	27-21-930-2332	27-21-930-5616

WHO Regional Offices

African Regional Office (AFRO)	242-83-9111	242-83-9400
American Regional Office (AMRO)	1-202-861-3200	1-202-223-5971
Eastern Mediterranean Regional Office (EMRO)	203-482-0223/24	203-483-8916
European Regional Office (EURO)	45-3917-1717	45-3917-1818
South-East Asian Regional Office (SEARO)	91-11-331-7804/23	91-11-331-8607
Western Pacific Regional Office (WPRO)	63-2-522-9800	63-2-521-1036

more groups concerned with HIV/AIDS become informed and active in fighting TB. Health and development NGOs can play a critical role in helping the world's poorest countries to address their TB problems, as can the major foundations. By contrast, a patchwork of smaller NGOs have shouldered responsibility in addressing the TB epidemic. Most of these NGOs are relatively small leprosy and lung associations.

Recently, a few creative groups have begun fighting TB bacteria in cyberspace. Many new initiatives have sprung up on the Internet, which provide free health information and education to anyone "on-line." For example, The Action Coalition in the United States has begun to disseminate information on TB via the Internet, and to encourage advocacy efforts.

The WHO Global TB Programme Provides Leadership

TB has been a low priority for most health institutions--including, at one time, the World Health Organization. As recently as 1989, WHO retained only one staff person devoted to TB. Then new leadership in WHO's Global TB Programme created impetus for energizing TB control efforts around the world. WHO nearly doubled its regular budget contributions to the Global TB Programme, increasing funding from \$1,094,800 in 1990-91 to \$1,960,715 in the 1994-95 biennium, and making it possible for the Programme to test the effectiveness of the DOTS strategy.

Extrabudgetary contributions from Japan, the Netherlands, and Sweden made it possible for the Programme to document the extent of the TB epidemic and alert the world by declaring a "global TB emergency" in 1993. Recent extrabudgetary contributions from Norway,

Global TB Programme

Two Year Statement of Income and Obligations, 1994 and 1995, All Figures in \$US

Obligations

Technical Support to Countries	5,693,562
Tuberculosis Research and Surveillance	4,105,972
Programme Direction and Coordination	2,808,309
Total Obligations	12,607,843

Income

Regular WHO Budget (HQ)	1,960,715
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Extrabudgetary Contributions

Australia	363,000
Belgium	39,294
* Germany	839,275
Ireland	528,647
* Italy	950,874
Japan	2,944,200
Luxembourg	150,000
Netherlands	1,960,658
Norway	660,582
* Sweden	963,268
Switzerland	586,298
United Kingdom	1,834,582
* United States	1,013,576
World Bank	357,250
Ciba-Geigy	10,000
Damien Foundation	80,419
German Leprosy Relief Agency	8,180
Kirby-Laing Foundation	4,960
Norwegian Heart & Lung Association	30,000
Wolfs Pharmaceuticals	5,000
Miscellaneous	1,554
Total Extrabudgetary Contributions	13,331,617

Accrued Interest	349,560
Provision for working capital for 1996	(3,034,049)

Grand Total	12,607,843
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* includes expert services

(Note: figures are provisional)

the United Kingdom and other new donors are now helping the programme to promote DOTS aggressively in a handful of the world's worst-affected countries.

Currently, the Global TB Programme can provide just 20 countries with the full range of technical support, and remains unable to provide adequate help to others overwhelmed by the TB epidemic. The Global TB Programme's bi-annual budget is short of the \$22 million necessary for the programme to give catalytic support to help all of the worst-affected countries to adopt the DOTS strategy. In addition to the Global TB Programme budget, \$100 million annually from donors and aid agencies will be needed to go directly to the worst-affected countries, mainly for medicines and equipment. A further \$250 million in local currencies will need to be provided by Ministries of Health in less-developed countries, to fund their own TB programme operating costs (such as staff and administration expenses).

In the past three years, WHO's Global TB

TB Info on the Internet

WHO Global TB Programme

http://www.who.ch/programmes/GTB_Homepage.html

The Action Coalition

<http://action.org/tuberculosis.html>

Tuberculosis and HIV Infection

<http://cornelius.ucsf.edu/~trojer/safesex/vanews/vanewstb.html>

Lung Line

http://www.njc.org/MFhtml/TUB_MF.html

Centers for Disease Control

<http://www.cdc.gov/diseases/tb.html>

should work! + to function as robots - won't exercise judgement - to trust pt + HIV's

Programme has trained hundreds of key health workers, assisted governments and health ministries worldwide, promoted important research into effective ways to cure TB, mobilized funds and political commitment to address the pandemic, and contributed to the cure of over one-half million TB patients. Still, WHO and other concerned groups cannot-by themselves--reverse an epidemic that infects two billion people. World governments must place TB control on their list of highest priorities.

TB: An Unnecessary Risk

While progress is being made against the TB epidemic, the situation is still bleak. TB control programmes in most countries are in disarray, often guilty of producing stronger TB germs and weaker patients. One-third of the world's population is already TB-infected, and HIV is driving these numbers still higher. *the c... edeca... uprob. gen*

Yet, a cost-effective and proven solution exists. DOTS medications cure over 95 percent of TB cases, and cost as little as \$11 for six months worth of treatment. The DOTS strategy has been successful all over the world, and is considered one of the most cost-effective public health interventions available. ?

Not enough is being done to reverse the epidemic and to remove the risk of TB from our lives. In spite of the increased efforts of some, the critical mass of concern does not yet exist. Many wealthy governments and NGO giants have remained passive observers. To date, no major foundation or trust has adopted TB as a high priority. Those who have the financial and political power to make a real difference must join the fight if we are to defeat TB. While an affordable cure for TB still exists, we cannot let it slip through our fingers. It is time to say goodbye to this horrible disease.



A Message from Dr. Arata Kochi Director of the Global TB Programme

When I tell people in Europe, Japan, and North America that I am working to reverse the global TB epidemic, many exclaim, "TB? I thought that was eradicated long ago!" Currently, most people living in wealthy countries have yet to be affected personally by the TB epidemic. But as you know from reading this report, this is beginning to change.

On the other hand, when I tell people in developing countries that I work on TB, their response is entirely different. Almost everyone knows someone



who has been sick with, or has died from, TB. Rather than reacting with surprise, people respond with resignation, usually saying, "Is there anything that can be done?"

Both responses are equally worrisome to me; those who are unaware that a crisis exists, and those who are unaware that a solution exists.

But another response is much more troubling than those I have already described. It comes from supposedly "well-informed" public health officials who know that DOTS could prevent three million deaths each year. Yet many

of these people insist that they are "unable to do anything about the TB epidemic." Their complacency is our worst enemy. Clearly, more human and financial resources can be mobilized to reduce and eventually to eradicate this terrible disease.

DOTS works--and it is affordable. The Global TB Programme has been on the ground, watching DOTS programmes in action and monitoring their progress. We have seen countries cure huge numbers of TB patients using this method. We know that TB can be controlled. Now we must respond; not with excuses, but with action.

Dr. Arata Kochi

World TB Day
24 March 1996

Policy factors

Leadership

Harare - This could be built up instead of being constantly attacked.

+ features

- ① Focus on specific risk groups - women, children, refugees
- ② Accessible, understandable reading material - is not only researchers / dr focus
- ③ Preser good, annual update - use of media +
- ④ Targeting points +
- ⑤ Raising resources +
- ⑥ High profile stamp TB on the ground +

Supra's - DOTS is HIV like HIV testing is done in many except India
= need to build leadership institutional capacity state govt capacity 3rd world

awareness of TB workers in India, exposing themselves to risk



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- ☐ **Please put me on your mailing list.**
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☐ **Children** ☐ **Economic Development**
☐ **Refugees**
- ☐ **I am interested in planning outreach activities for World TB Day 1997.** Please send me information when it becomes available.
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